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Specification and Drawings, as originally filed, with Application for Patent Serial No: **2,394,119**, on July 18, 2002, by **IDELIX SOFTWARE INC.,** assignee of Zeenat Jetha, Andrew Carlisle and Andrew Skiers, for "Cropping and Measuring with a Single Lens".

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Agent certificateur/Certifying Officer

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Date

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# Cropping and Measuring with a Single Lens

## Backgr und

The "Applications of Multiple Lenses in Detail-In-Context Data Presentations" documents the ideas of cropping and measuring with multiple lenses. In this previous application, the lenses are defined first, then the crop or measure tool is selected and crop is performed through the lens. Or, the lens simply acts as a carrier for the tool. That is, the center of the lens follows the tool around. Since the line that defines the crop is in the focus of the lens where a better resolution of the image can be seen, the cropping operation is far more accurate.

This documents defines the same process as the previous document, however in this case, only one lens used. The lens may be a carrier for the tool, or the lens may actually be the tool itself.

## Description of cropping with single lens

One of the most common, yet troublesome, tasks is to precisely crop areas of interest. Generally the user needs to pinpoint at least two points to define a rectangle (top left and bottom right), or more points to define an arbitrary polygonal shape. Zooming into the image prevents other important points from being visible. However, by using a lens, this task becomes trivial. This section describes the process of cropping with a lens.

## Details

Figure 1 illustrates the process of cropping a rectangle with a single lens. The user first selects the cropping tool (which is associated with a lens) and clicks on a starting point.

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Figure 1. Selecting a point at pixel level and starting to crop a rectangle with a lens.

Then the user drags the lens the next location to complete the rectangle. The lens follows as shown in Figure 2. The dotted lines are drawn as the lens move diagonally across the page. The rectangle defines the area to be cropped.

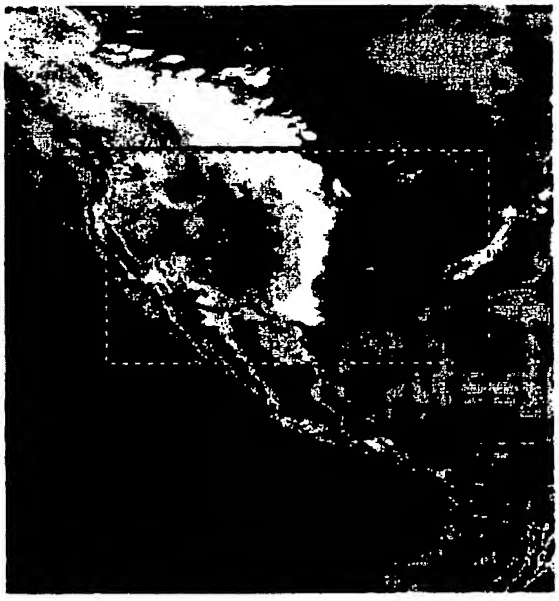


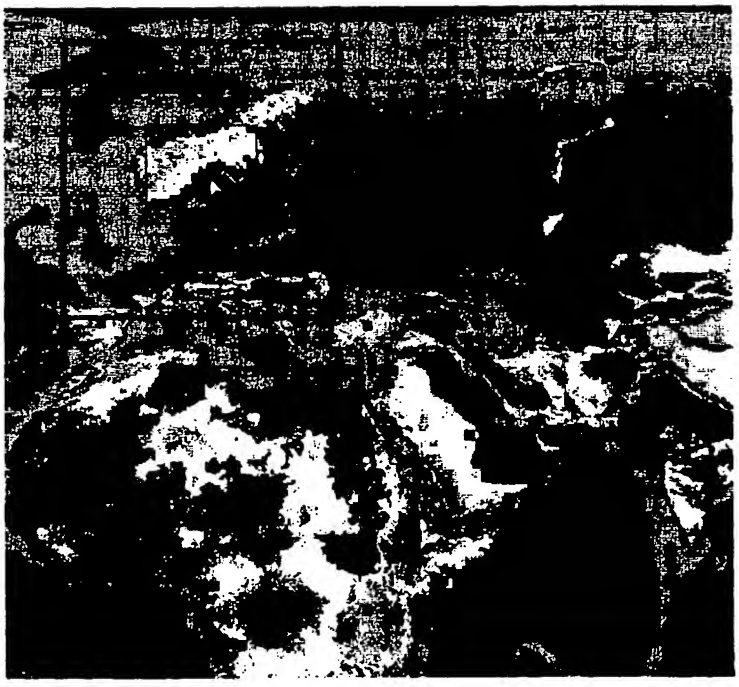
Figure 2. Cropping an area with a lens.

**Variations**

1. The lens simply follows the crop tool and act as a carrier for the tool.
2. The tool may defined to be associated with a lens, making the lens appear to be the tool
3. The user may also use the lens to crop an arbitrary shape. This idea can be extrapolated from Figure 3. The lines that represent distance may be lines that define where the image may be cropped.
4. The cropping tool may or may not be visible in the lens. In Figure 1 and 2, the tool is not visible. In Figure 3, the tool is visible.

**Description of measuring with single lens**

Measuring distances between points may be achieved with better accuracy through a lens. Figure 3 show an example of making measurements with a single lens.



a) The starting point: the measure tool is attached to the center of the lens.

b) The first distance segment has been created. The line, in this example has been is XORed with the background image.

c) Two line segments can be seen. The lens continues to follow the tool.

Figure 3 Using a lens to take measurements

Figure 3 may used to show how a lens may used to crop an image. That is the lines created as the lens moves from point to point may be the lines that define where the image is to be cropped.

**Variations**

1. The lens may be attached to the center of the tool
2. The measure tool may be defined with lens